Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications	)	PS Docket No. 11-153
	)	
	)	
Framework for Next Generation 911 Deployment	)	PS Docket No. 10-255
	)	
	)	

COMMENTS OF COMTECH TELECOMMUNICATIONS CORP.

Comtech Telecommunications Corp. ("Comtech")[1] hereby submits its comments to the Federal Communications Commission ("FCC" or "Commission") in response to the January 9, 2017 *Public Notice* ("Notice") in the above referenced dockets.[2]

I. Background

Comtech's experience in public safety communications began when it pioneered the first U.S. wireless E9-1-1 solution in 1997, progressed through deployments of some of the first true Next Generation 9-1-1 ("NG9-1-1") systems in Iowa, Texas, and Tennessee, and continues with the recent announcement of an ESInet deployment for Washington state.[3] Today, Comtech directly supports over 500 deployments of text-to-911 services across 35 states.[4]

[1] On February 23, 2016 Comtech Telecommunications Corp. (symbol CMTL) purchased 100% of the stock of TeleCommunication Systems, Inc. (TCS) (symbol TSYS). When referencing Comtech, we also include the historic filings and positions of TCS.

[2] *Public Safety and Homeland Security Bureau Seeks Comment On Request Of The State Of Maine Public Utilities Commission To Address Demarcation Issues Related To The Implementation Of Text-To-911 Via Message Session Relay Protocol,* (PS Docket No. 11-153 and PS Docket No. 10-255) (DA 17-31) Released: January 9, 2017 (Notice) http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0109/DA-17-31A1.pdf

[3] *Comtech Telecommunications Corp. is Awarded Contract Valued At Approximately $45.0 Million to Provide Statewide ESInet* (Press Release – July 20, 2016) http://www.comtechtel.com/releasedetail.cfm?ReleaseID=980381

[4] http://www.telecomsys.com/products/public-safety/sms_911.aspx

II. Comments

a. Background: Development of the Text Control Center

The current national network structure for the processing of wireless handset text-to-911 messages funnels all originating messages from end users through one of two vendor-operated Text Control Centers ("TCC") that serve to analyze, process, and route these emergency text messages to the appropriate Public Safety Answering Point ("PSAP") for assistance. The TCCs also interconnect and exchange text messages with each other for two reasons. First, because they do not serve the same originating wireless carriers, and second, neither TCC serves the same set of terminating PSAPs. This interconnection between TCCs allows any one TCC to effectively deliver all emergency text messages nationwide.

The TCC concept and network implementation is a direct result of and controlled by the December 12, 2012 agreement among the largest four wireless carriers (i.e., AT&T, Sprint, T-Mobile, and Verizon), NENA, and APCO ("Joint Agreement") to provide an interim SMS text-to-9-1-1 solution by May 15, 2014.[5] The Maine Public Utilities Commission ("MPUC" or "Maine") was an early supporter of text-to-911[6] and encouraged a text-to-911 solution with, ". . . the ability to be delivered to either a legacy *or* i3 compliant PSAP on its 9-1-1 equipment."[7] (emphasis added)

[5] *In the Matter of Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications*, PS Docket No.11-153; and *In the Matter of Framework for Next Generation 911 Deployment*, PS Docket No. 10-255, Further Notice and Proposed Rulemaking (December 12, 2012) (FCC 12-149) (Joint Agreement) https://ecfsapi.fcc.gov/file/7022081985.pdf

[6] *In the Matter of Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications*, (PS Docket 11-153) (Comments of the Maine Public Service Commission, filed November 2, 1012) https://www.fcc.gov/ecfs/filing/6017115784/document/7022038224

[7] *Id*., at p. 2.

b. TCC Demarcation Point Question

In its letter to the FCC that launched this inquiry, the MPUC describes, ". . . a conflict related to the implementation of text-to-911 via message session relay protocol ("MSRP") service in the State of Maine."[8] Specifically, the MPUC asks for clarification as to the point of demarcation for text-to-911 service between wireless providers and Maine's Next Generation 911 ('NG911") system network (a.k.a. "ESInet") for purposes of delineating cost support. The MPUC explained that both TCCs proposed interconnection that includes Maine bearing the costs for delivery of text-to-911 messages to its ESInet (via charges for a circuit or other connectivity between one of the TCCs and the ESInet), while Maine argues that wireless carriers or others should deliver these messages to its ESInet without additional costs to Maine.

c. TCC Demarcation

Maine's position regarding cost sharing for text-to-911 messages relies on a series of Commission actions that are generically referred to as the FCC's King County Decision ("King County").[9] In responding to a cost responsibility dispute, the FCC's Wireless Telecommunications Bureau explained that, "Specifically, under the Commission's rule at section 20.18(d) requiring wireless carriers to provide Phase I service, the Bureau clarifies that the proper demarcation point for allocating costs between the wireless carriers and the PSAPs is the input to the 911 Selective Router maintained by the Incumbent Local Exchange Carrier (ILEC)."[10] The

[8] *Notice* at p. 1.
[9] The King County Decision is composed of two primary parts. First, *See* Letter from Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau, FCC, to Maryl R. Davis, E911 Program Manager, King County E-911 Program Office, (WTB May 7, 2001), 2001 WL 491934, (Sugrue Letter); https://apps.fcc.gov/edocs_public/attachmatch/DOC-212689A1.pdf Next, this was followed by a Commission decision; *In the Matter of Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Request of King County, Washington*, Order on Reconsideration, 17 FCC Rcd 14789, para. 3 (Adopted: May 14, 2002) (Order on Reconsideration). https://apps.fcc.gov/edocs_public/attachmatch/FCC-02-146A1.pdf
[10] Id. Sugrue Letter at p. 1.

explanation continued, "PSAPs, on the other hand, must bear the costs of maintaining and/or upgrading the E911 components and functionalities beyond the input to the 911 Selective Router, including the 911 Selective Router itself, the trunks between the 911 Selective Router and the PSAP, the Automatic Location Identification (ALI) database, and the PSAP customer premises equipment (CPE)."[11] In the subsequent Order on Reconsideration, the full Commission explained, "In response to a Petition for Reconsideration, the Commission hereby affirms the Bureau's decision. We find that the cost allocation point for E911 implementation should be that point at which the system identifies the appropriate PSAP and distributes the voice call and location data to that PSAP."[12]

Maine cites King County as precedent in framing its argument that, "Maine strongly believes that the point of demarcation should be at the ingress designated by the Session Border Controller (SBC) of the State of Maine ESInet. TCCs, acting on behalf of wireless carriers, argue that the point of demarcation should be the egress side of the SBC used by the TCCs."[13] Thus, does the TCC denote the same cost demarcation point as a Selective Router?

d. Discussion

In publishing the Notice the Commission asked two questions: "We seek comment on Maine's request for clarification regarding the appropriate point of demarcation between wireless providers and Maine's NG911 network in order to appropriately assess costs for provision of text-to-911, and on the applicability of the *King County* decision to this issue. We also seek comment on whether any demarcation point identified for text-to-911 could be generally applied to future

[11] Ibid. Also, note that while in the context of the King County Decision PSAPs are responsible for the Selective Router's costs, such is not the case through the Joint Agreement.
[12] Order on Reconsideration at p.1.
[13] Letter from Maria P. Jacques, ENP, Director, Maine Emergency Services Communication Bureau, to David G. Simpson, Chief, Public Safety and Homeland Security Bureau, FCC (November 16, 2016) (Maine Letter), at p. 2, available at https://ecfsapi.fcc.gov/file/111789902143/Text_IPConnectivityDemarcationPoint_ME.pdf.

multimedia communication (e.g., delivery of photos, video, and other data) in the NG911 environment."[14]

e. King County Decision Is Instructive, But Specific Commission Decisions and Industry Conduct Control

In contrast to Maine's argument, Comtech believes that (in the absence of a negotiated arrangement between the relevant parties) the King County Decision provides support for treating the TCC as a Selective Router for cost demarcation purposes, but is not controlling because the matter has been definitively resolved by specific Commission decisions and industry conduct. First, with full awareness of King County, the blueprint established by the 2012 *Joint Agreement* between public safety and the wireless carriers, and validated by Commission, states ". . . incremental costs for delivery of text messages (e.g. additional trunk groups to the PSAP's premises required to support TTY delivery) will be the responsibility of the PSAP, as determined by individual analysis."[15] Next, in 2014 the Commission reiterated and clarified this decision when it concluded,

> ". . . we find that our text-to-911 rules will not impose an undue burden on PSAP operations. First, PSAPs retain discretion as to whether it will accept text messages. We strongly encourage PSAPs to implement text-to-911 in their jurisdictions and expect that consumer demand and considerations of public safety will drive this investment. Investments made now by PSAPs and covered text providers to support text-to-911 can also be leveraged to support future NG911 deployments and, accordingly, serve as building blocks towards an IP-based emergency network. Second, PSAPs have several options for the receipt of text messages, including options that will impose minimal costs on the PSAP. For example, while some PSAPs may choose to implement text-to-911 using existing equipment, such as existing NG911 customer-premises equipment (CPE), web browsers, or TTY terminals, other PSAPs may choose to upgrade their equipment to receive text messages in a manner that will also support additional data once in an NG911 environment. Third, PSAPs that have already implemented text-to-911 or participated in text trials have

[14] *Notice* at p. 2.
[15] *Joint Agreement* at p. 56.

> provided anecdotal evidence that texts to 911 will not likely overwhelm any PSAP and that text-to-911 service saves lives."[16]

The TCC is, for the most part, a standardized function, yet PSAPs vary in their capabilities and desires regarding interconnection to the TCC. In fact, Maine acknowledged several of these in its letter.[17] Given the increasing number of current PSAP deployments, Maine's narrow interconnect point of view isn't the common industry perception. Maine does not claim that it will cease to process text-to-911 (and deserves credit as an early adopter), only that it wants a more advanced interconnection system at zero cost. Given that Maine has already funded and deployed an advanced ESInet, reducing the number of TCC connections to just that of the ESInet and not to each individual PSAP is an already significant cost savings.

A policy that allows for flexible interconnection options has accelerated PSAP deployment. Even the transport of MSRP based text-to-911 messaging is supported through multiple underlying delivery options such as Multiprotocol Label Switching or Virtual Private Network circuit connectivity, each having its own performance and cost implications. Maine prefers interconnection via message session relay protocol ("MSRP") delivered over MPLS circuits which is more aligned with NG911 than with using TTY, for example. Making the connectivity for MSRP "free" would still not answer the transport protocol selection question that other jurisdictions face, and would disadvantage PSAPs who are only capable of or prefer using TTY or browser interconnections. The Commission has long held that it does not pick "winners" or "losers" in the marketplace. The point is, deployments have occurred sooner and been more abundant under a neutral multi-choice interconnection regime.

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[16] *In the Matter of Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications,* PS Docket No.11-153; and *In the Matter of Framework for Next Generation 911 Deployment,* PS Docket No. 10-255, Second Report and Order and Third Further Notice and Proposed Rulemaking (August 8, 2014) (FCC 14-118) (Second Report and Order) at p. 15. https://apps.fcc.gov/edocs_public/attachmatch/FCC-14-118A1_Rcd.pdf

[17] Maine recounts various methods of interconnection to the TCC. *Maine Letter* at p. 1.

When the PSAPs are responsible for and in charge of their interconnections, they can more effectively monitor and control text-to-911 performance as they see fit. With direct circuit administration, PSAPs may also choose to combine current, and future, media types and/or signaling on the same types of circuit(s). This flexibility also permits better cyber security coordination with existing environments. Lastly, while Maine argues for free MSRP interconnection to the TCC(s), the statewide ESInet deployments in Tennessee, Connecticut, and Florida, and pending in Washington State, already include the states taking responsibility for and control of the connections to the TCC(s).

f. The Future

While Comtech believes that the FCC's definitive policy directives regarding cost demarcation and the need for flexibility resolve this question in today's transitional environment, as the Commission points out, this may not be the most appropriate or desirable path for all services in the future. Rather than attempt to decide these questions in the context of Maine's petition, Comtech suggests that it would be more appropriate to address these issues via a robust industry collaborative such as CSRIC[18] or other Commission vehicle wherein all points of view would be recognized.

III. Conclusion

The competitive public safety industry model encourages new services to enter the public safety ecosystem in a more expedient (and often more cost-efficient) fashion than may be available solely by regulatory fiat. Comtech believes that while text-to-911 is still a work in progress, the precedent set by the *Joint Agreement*, further clarified by the *Second Report and Order*, and exemplified by the shared financial responsibility model of current operating ESInets

[18] https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability

require that the FCC find that treating the TCC the same as a Selective Router for purposes of cost demarcation is appropriate, and reject Maine's request. That being said, Comtech agrees that this topic would benefit from cooperative industry discussion as the introduction of new NG911 services advances because confusion, especially regarding financial responsibility, can delay innovation and critically needed emergency services.

Respectfully submitted,

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